

The Psychobiology of Pain Management

Neuroscience, Ultradian Hypnosis, and the Elimination of Suffering

Presented by
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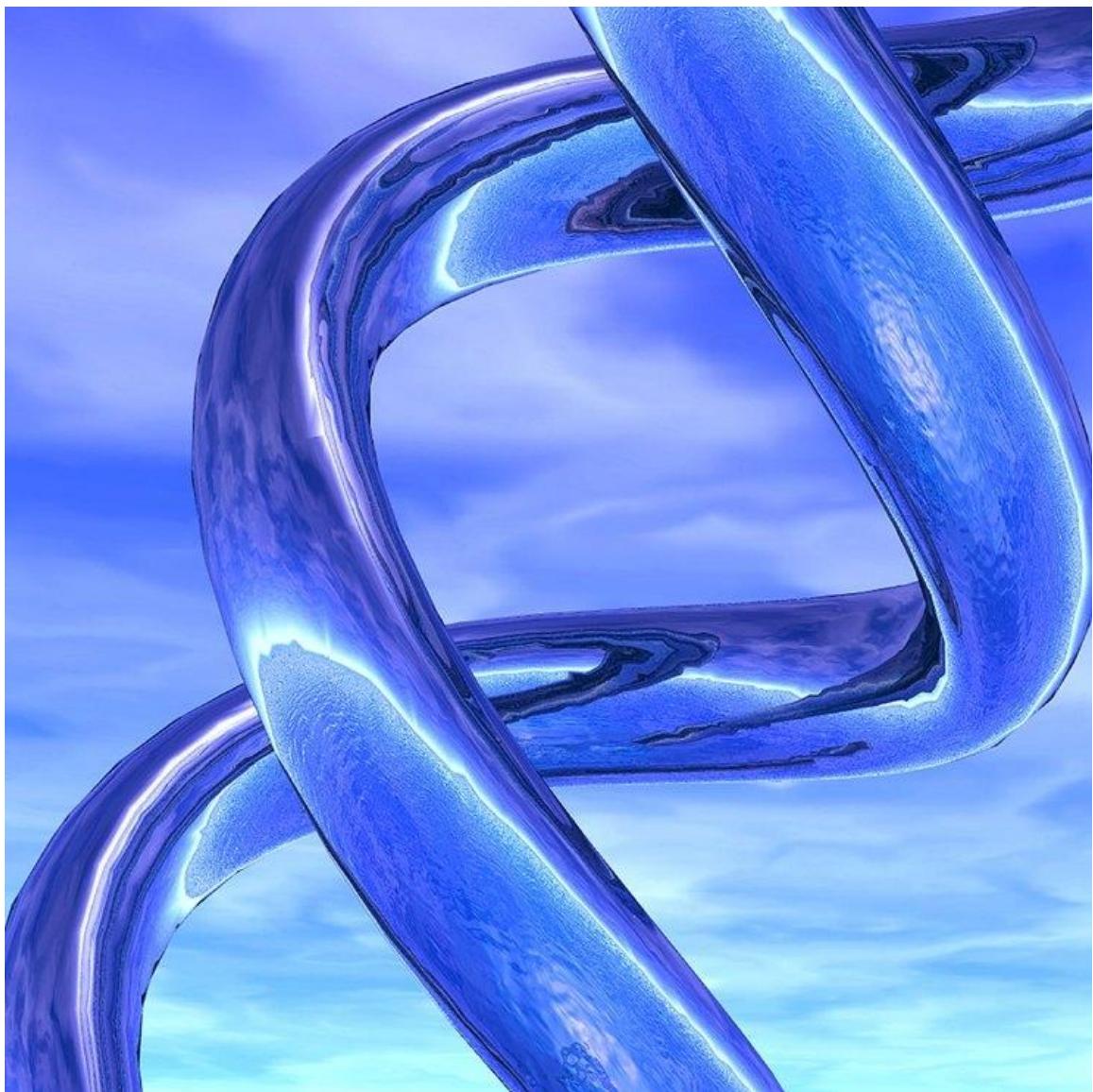


Table of Contents

Your First Definitions.....	I
Your Personal Learning Style.....	I
The Language of Pain.....	II
Tentative Definition of Pain Exercise.....	III
Introduction to Your Unconscious Mind Exercise.....	IV
The Chevreul Pendulum Exercise.....	V
Eye Relaxation Exercise – Anatomy of the Skull.....	VI
Differential Muscular Relaxation Exercise.....	VII
Brain Wave State Diagram.....	VIII
Bibliography.....	IX
PowerPoint Presentation Slides.....	CD

Your First Definitions

Your Definition of Pain:	
Your Definition of Hypnosis:	
Your Understanding of How Hypnosis Helps to Relieve Pain:	

Your Personal Learning Style – 4-MAT: _____

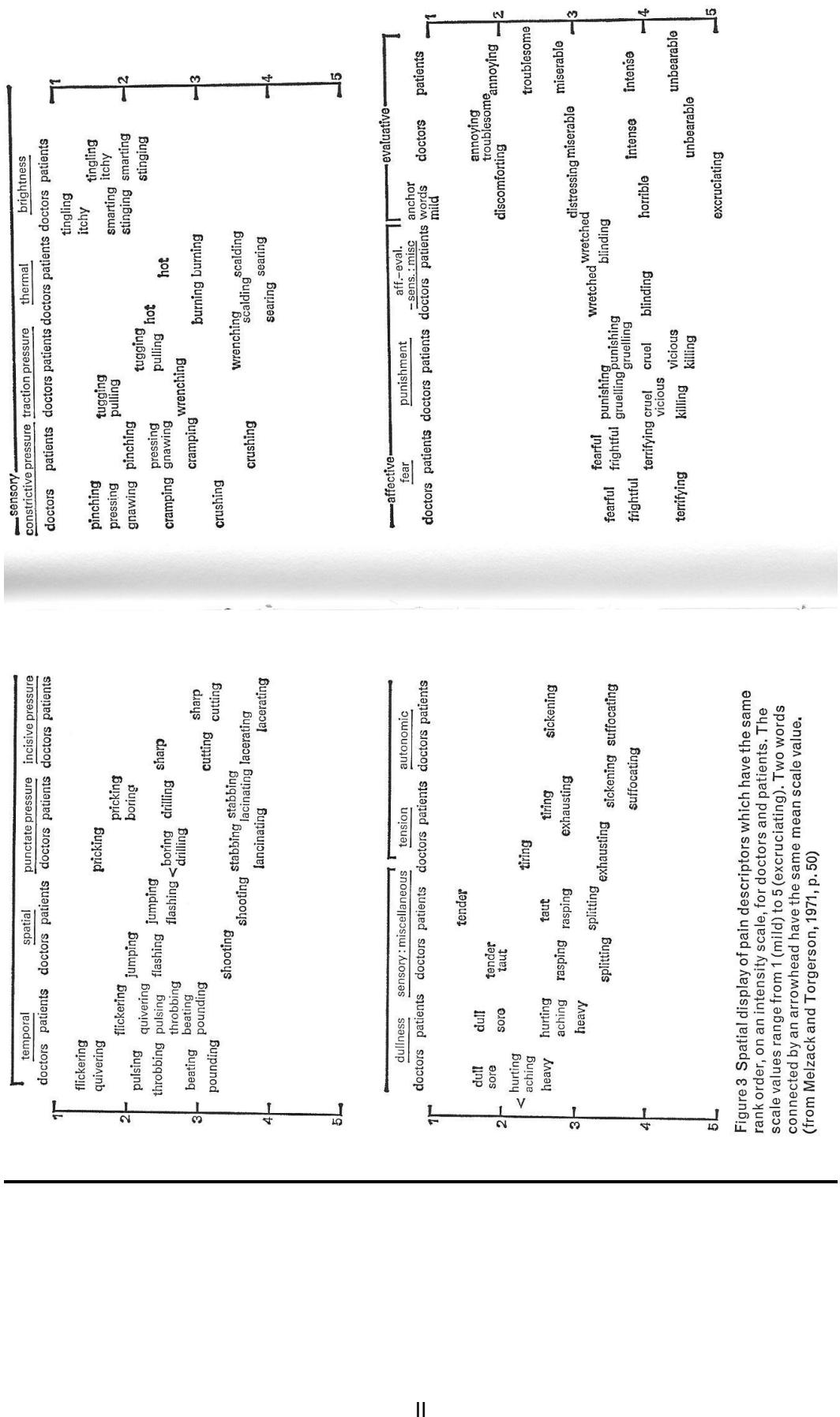


Figure 3 Spatial display of pain descriptors which have the same rank order, on an intensity scale, for doctors and patients. The scale values range from 1 (mild) to 5 (excruciating). Two words connected by an arrowhead have the same mean scale value. (from Melzack and Torgerson, 1971, p.50)

Tentative Definition of Pain Exercise

Write out your Tentative Definition of Pain Based on your Group Discussion

Introduction to Your Unconscious Mind

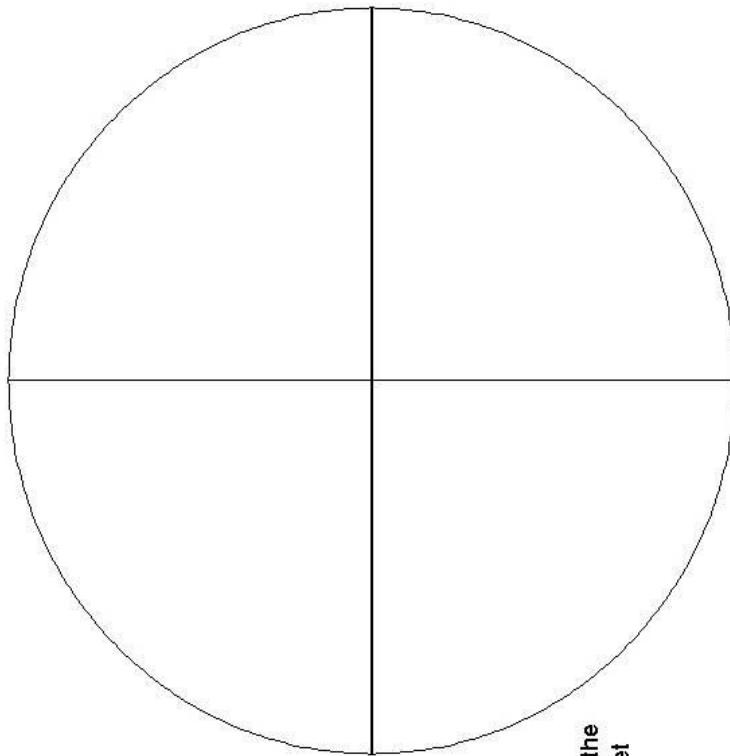
Line 1	
Line 2	
Line 3	
Line 4	

The Chevreul Pendulum

The Chevreul Pendulum

Four Directions:

1. Up-Down
2. Left-Right
3. Clockwise
4. Counterclockwise



Four Responses:

1. Yes
2. No
3. I don't know
4. I'm not ready to know the answer consciously yet

My Responses:

1. Up-Down =
2. Left-Right =

My Responses:

3. Clockwise =
4. Counterclockwise =

Eye Relaxation Exercise

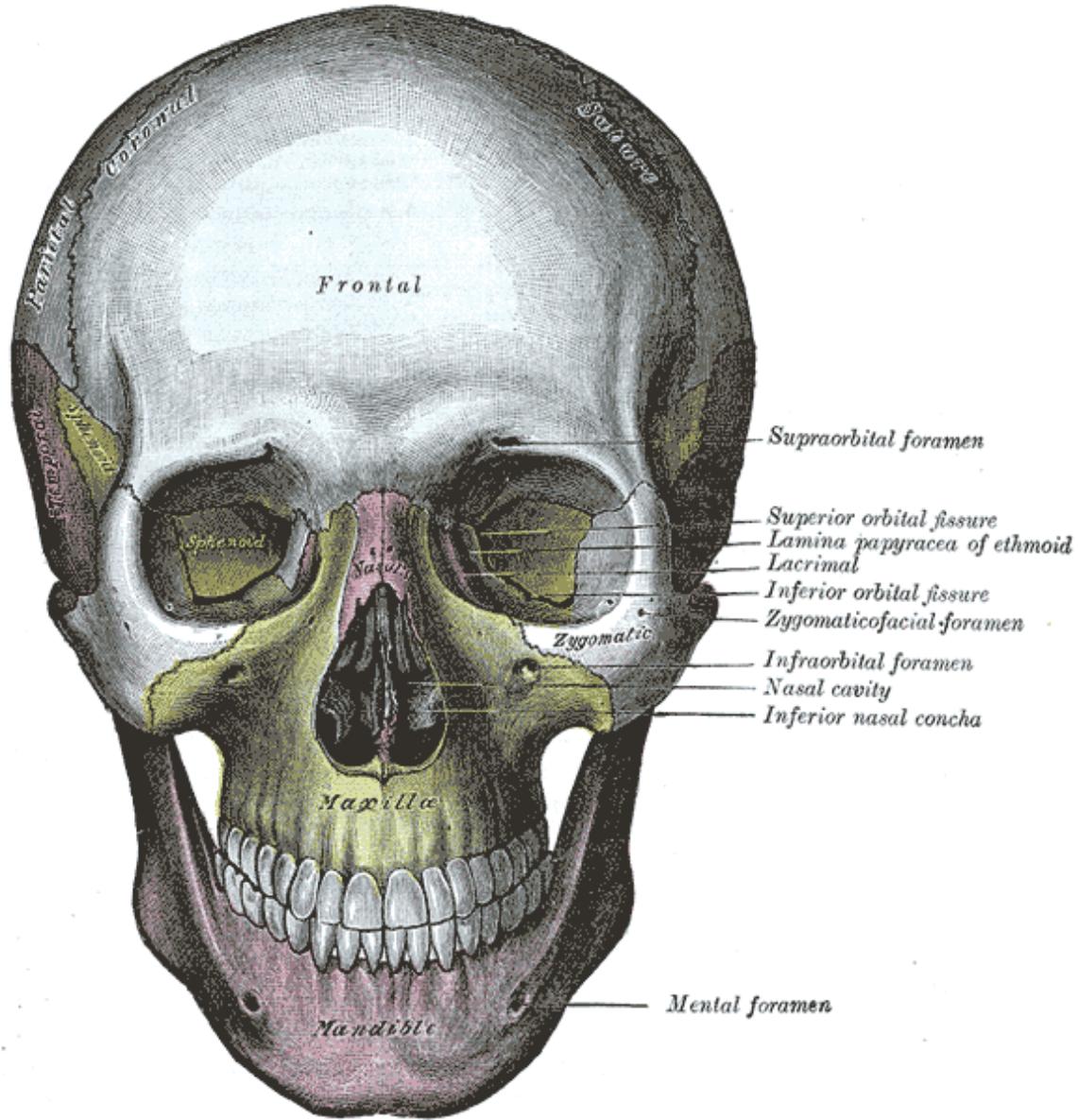


Figure 3 – The Skull From The Front
(20th US Online Edition of Gray's Anatomy – Reproduced from Wikipedia – The Free Encyclopedia)
www.wikipedia.org

Differential Muscular Relaxation Exercise

Differential Muscular Relaxation is a yoga training technique.¹¹ The method is very simple. Follow these steps:

1. Recline, sit in a chair with your feet on the floor, or stand comfortably with your hands resting at your sides.
2. Contract the muscles in your toes and feet and hold them in a tense state for 5 or 6 seconds.
3. Release the contraction, and allow the muscles to relax.
4. Repeat this sequence (hold tense for 5 – 6 seconds, then let go) for all of your muscle groups in the following sequence:
 - a. Toes and feet
 - b. Calves
 - c. Thighs (quadriceps and hamstrings)
 - d. Lower back, abdominals, gluteus muscles
 - e. Chest and upper back
 - f. Neck and trapezius muscles
 - g. Shoulders, upper arms, lower arms, wrists and hands
 - h. Face

You will notice the feelings in your body change as you become more relaxed. Relaxation is attended by feelings of warmth, pulsing or vibrating in the muscles, and heaviness. You can perform a complete Differential Muscular Relaxation routine in about 2 minutes. Practice this 3 or 4 times each day, until you become adept at relaxing in various locations and situations.

Brain Wave Frequency/Level	Mental Characteristics	Physical Characteristics	Synchronization Effect
Gamma 30+ cps	120 Flow State	Energized, Fluid, Graceful	Re-synchronized neural functions.
	115 One-pointed concentration	Feelings of Enjoyment, Increased Stamina	
	110 Focused	Increased Coordination	
	105 Increasing Focus	Increased Fluidity	
Beta (13 - 30 cycles per second)	100 Wide Awake State	Extreme Tension, Uptight	Alpha-blocking and De-synchronization of neural functions. The brain is processing 'external' information, and each functional sub-unit [Broca's Area, Wernicke's Area, Visual Cortex, Motor Cortex, etc.] is operating independently.
	95 Excitement, Frustration	High Metabolic Behavior	
	90 Aware of all senses	Hands Moist and Clammy	
	85 Very Alert	Accelerated Work Ability	
	80 Actively Aware	Hyperactive	
	75 Active Thought Patterns	High Degree of Stamina	
	70 Comfortably Alert	Comfortable, Restful State	
	65 Consciously Aware	Good Observation State	
	60 Normal Thought Patterns	Physically At Rest	
	55 Easy Thoughts	Beginning to Relax	
Alpha (8-12 cps)	50 Less Active Thoughts	Increased Composure	Synchronized neural functions. All CNS neurons are firing at the same rate in the same rhythm.
	45 Pre-Drowsiness	Releasing All Body Feelings	
	40 Increased Susceptibility	Passive Awareness	
	35 Passive Awareness	Numb, Quiet	
	30 Total Sensory Withdrawal	Deep Relaxation	
Theta (4-7 cps)	25 Low Alpha State	Complete Passivity	De-synchronization as various functional subunits go offline. Hippocampus very active – PGO spikes.
	20 Drowsiness	Unaware	
	15 Beginning Unconsciousness	Unaware	
Delta (.05-3.0 cps)	10 Unconsciousness	Unconscious	Non-synchronization as neo-cortex rests during slow-wave sleep cycle.
	5 Deep Sleep State	Deep Sleep State	
	0 Baseline	Baseline	

Simplified Brain-Wave State Diagram

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